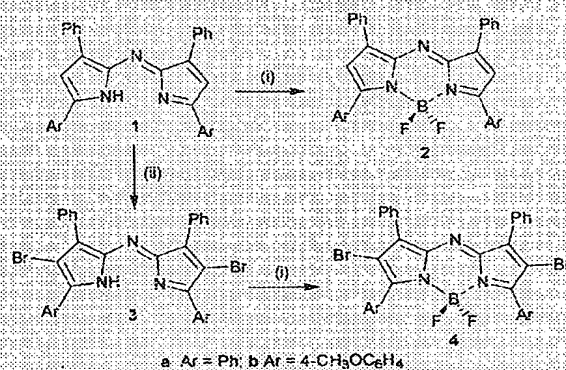


Fig. 1
Reaction Scheme



- (i) $\text{BF}_3 \cdot \text{OEt}_2$, DIEA, CH_2Cl_2 , rt, 16 h;
(ii) Br_2 , toluene, rt, 2 h.

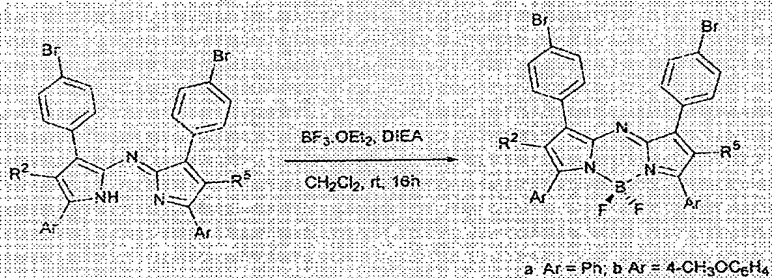


Fig. 2 Normalised absorption (—) and emission spectra (.....) of **2a** and electronic absorption (- - -) and fluorescence spectra (— · —) of **4a** in CHCl_3 at room temperature.

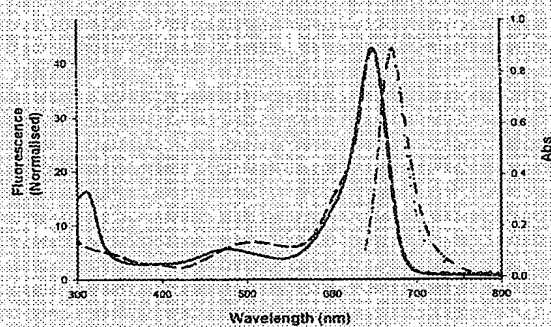


Fig. 3 X-Ray crystal structure of **2b**, crystallised from toluene/methanol bilayer (co-crystallised with molecule of toluene).

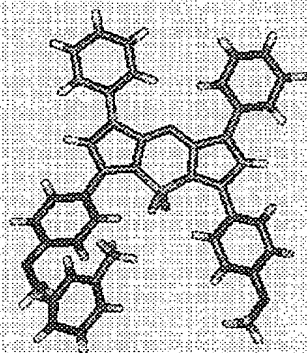


Fig. 4 Cellular localisation of 2a (light grey colour) in HeLa cancer cells visualised with fluorescent microscopy (darker grey area is the cell nucleus).

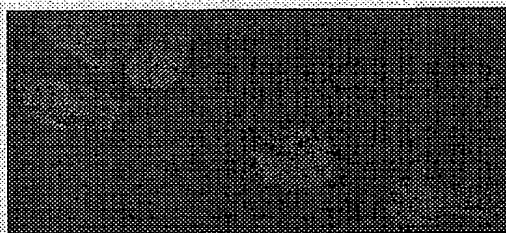


Fig. 5 Cellular localisation of 2a in HeLa cancer cells; nucleus is co-stained with DAPI (blue) and cytoplasmic localisation of 2a (red).

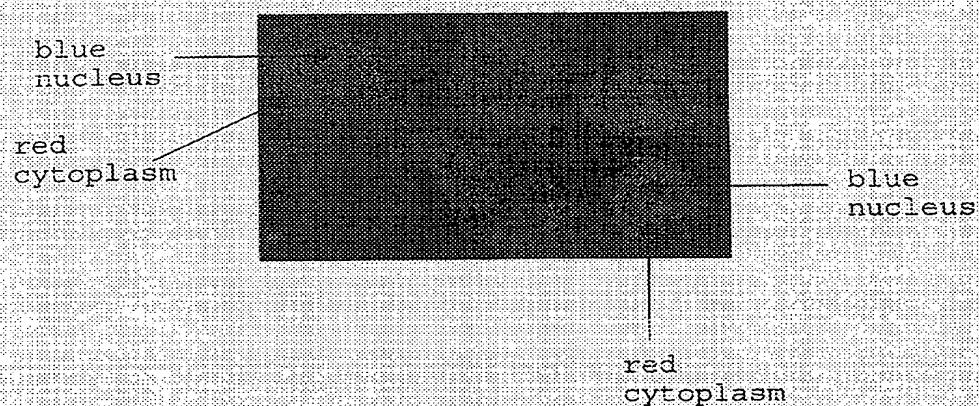


Fig. 6a:

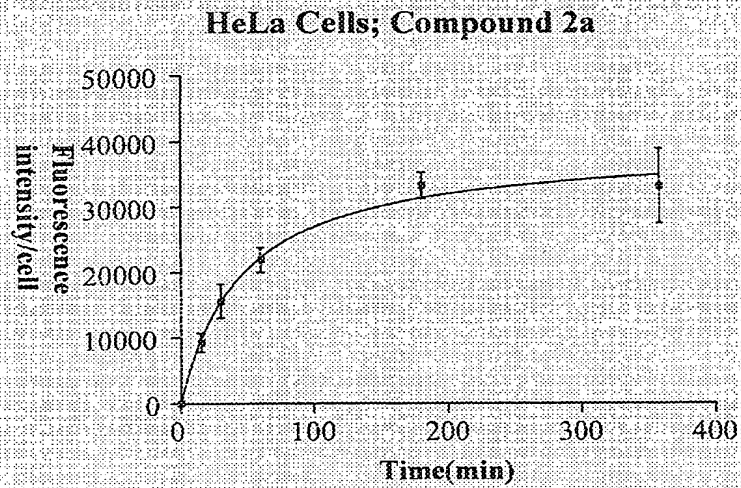


Fig. 6b:

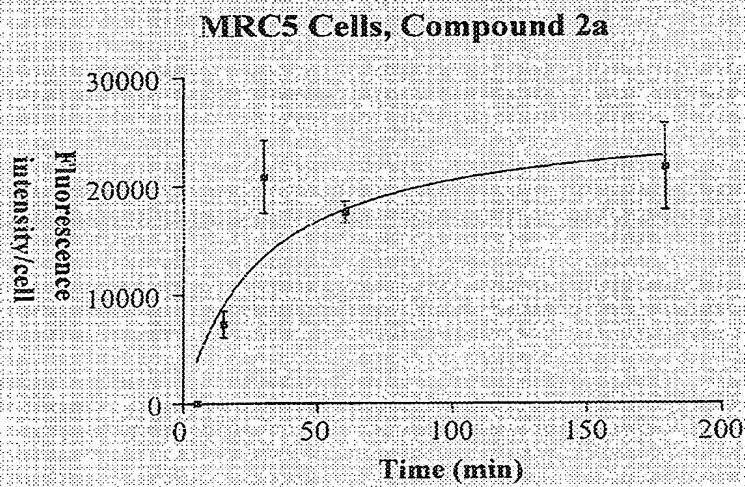


Fig. 7:

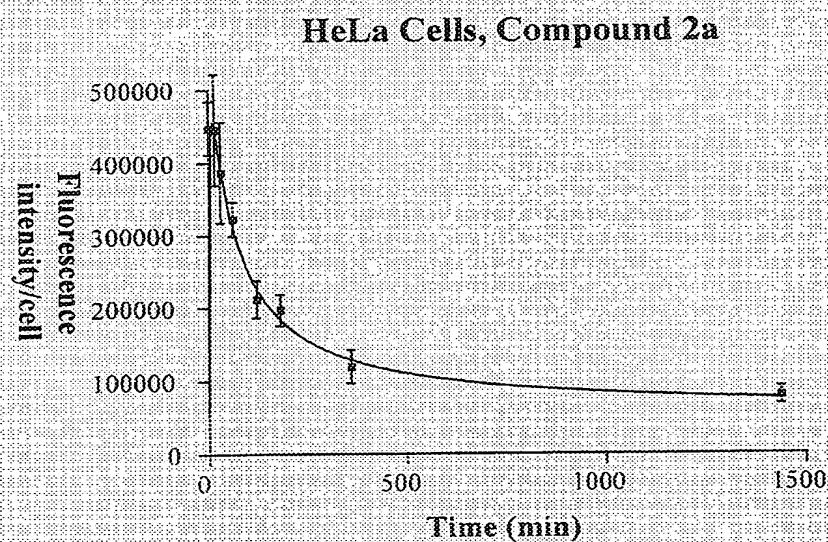


Fig 8. Dose Response Curve for 2a

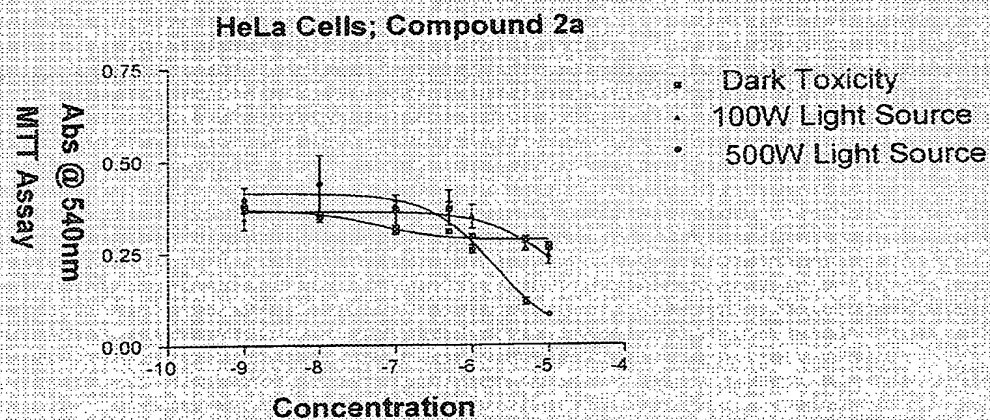
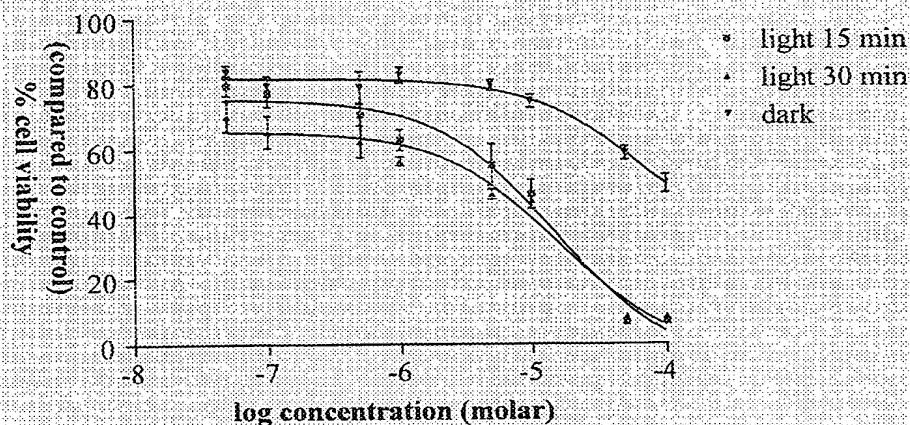
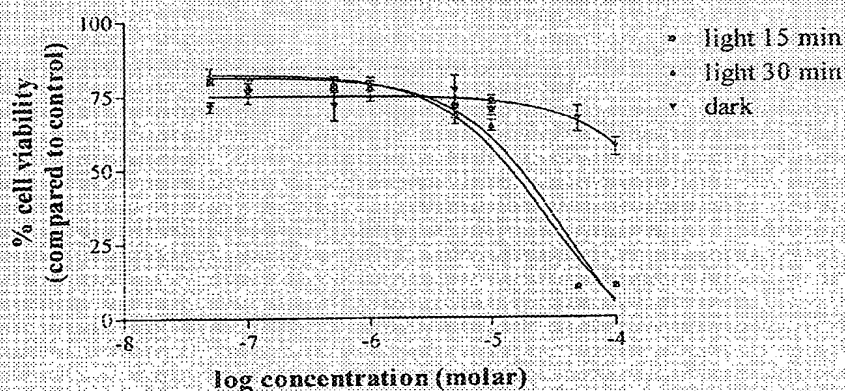


Fig. 9:

HeLa: Haematoporphyrin

- ▼ Exposure to 0 J/cm² light (no light)
- Exposure to 8 J/cm² light (15 mins from a 500W light source)
- ▲ Exposure to 16 J/cm² light (30 mins from a 500W light source)

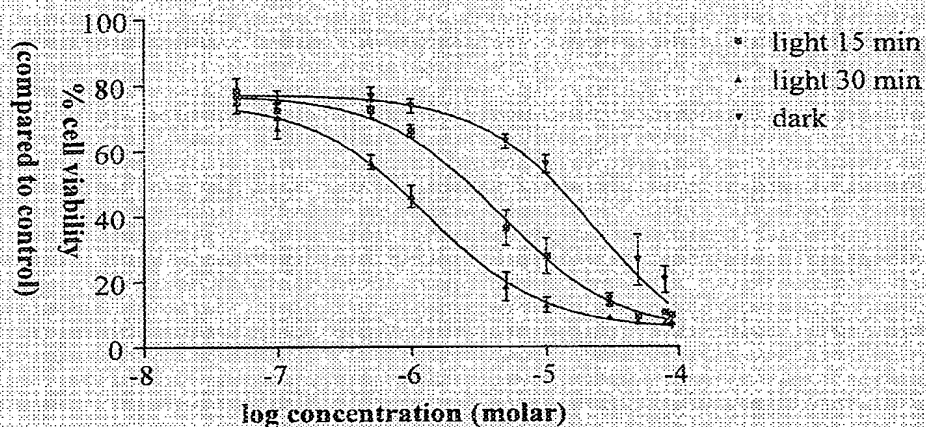
Fig. 10:

**MRC5: Haematoporphyrin (24 hr),
500 W light, MTT after 48 hrs**

- ▼ Exposure to 0 J/cm² light (no light)
- Exposure to 8 J/cm² light (15 mins from a 500W light source)
- ▲ Exposure to 16 J/cm² light (30 mins from a 500W light source)

Fig. 11

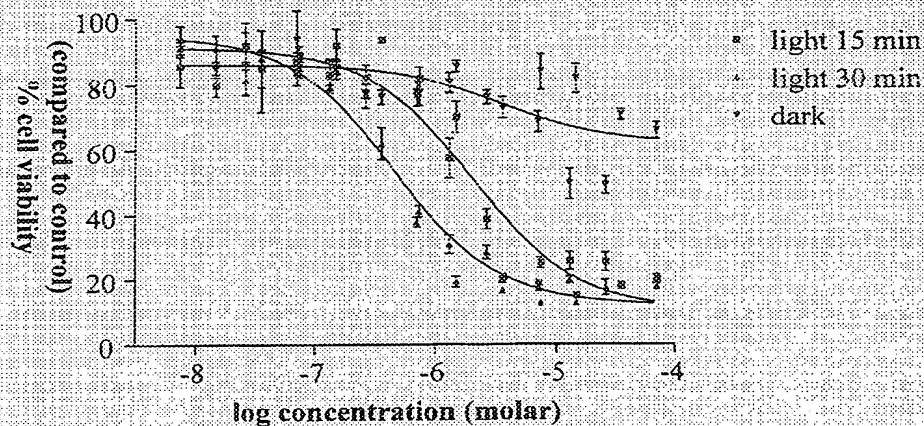
HeLa: Compound 2a



- ▼ Exposure to 0 J/cm² light (no light)
- Exposure to 8 J/cm² light (15 mins from a 500W light source)
- ▲ Exposure to 16 J/cm² light (30 mins from a 500W light source)

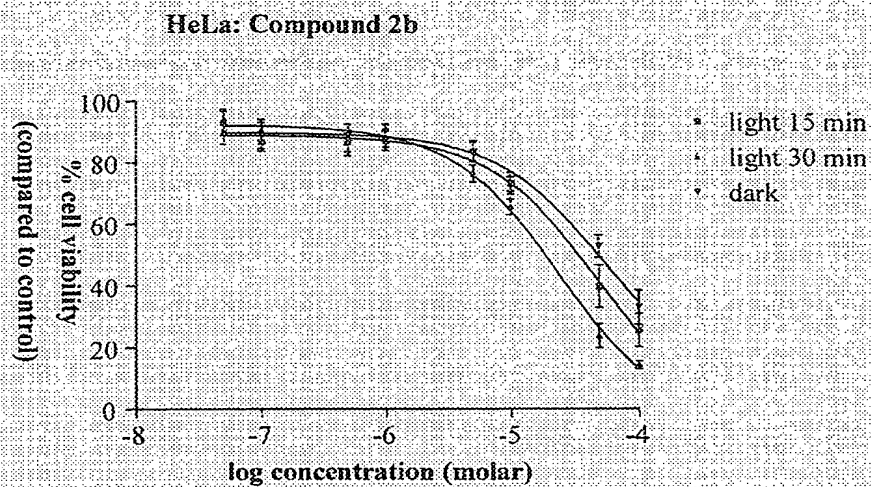
Fig. 12:

MRC5: Compound 2a



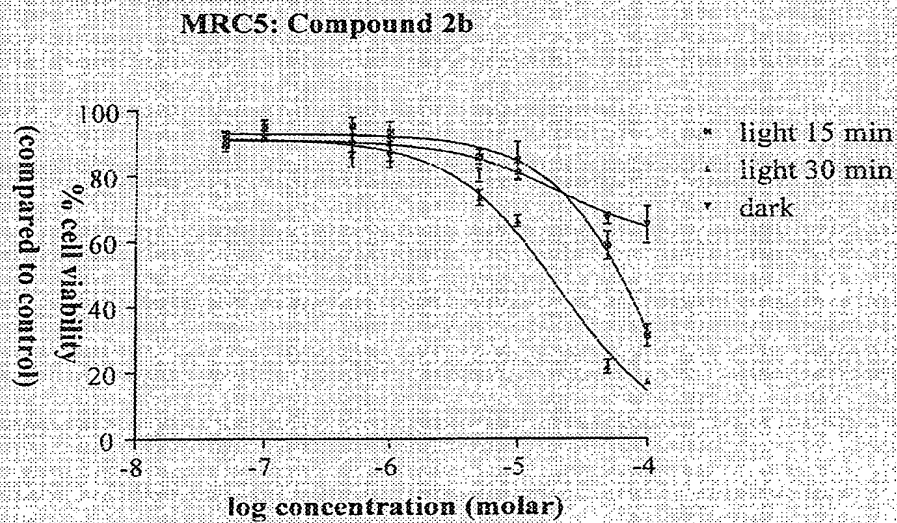
- ▼ Exposure to 0 J/cm² light (no light)
- Exposure to 8 J/cm² light (15 mins from a 500W light source)
- ▲ Exposure to 16 J/cm² light (30 mins from a 500W light source)

Fig. 13:



- ▼ Exposure to 0 J/cm² light (no light)
- Exposure to 8 J/cm² light (15 mins from a 500W light source)
- ▲ Exposure to 16 J/cm² light (30 mins from a 500W light source)

Fig. 14:



- ▼ Exposure to 0 J/cm² light (no light)
- Exposure to 8 J/cm² light (15 mins from a 500W light source)
- ▲ Exposure to 16 J/cm² light (30 mins from a 500W light source)

Fig. 15: Cell Toxicity following administration of 2a

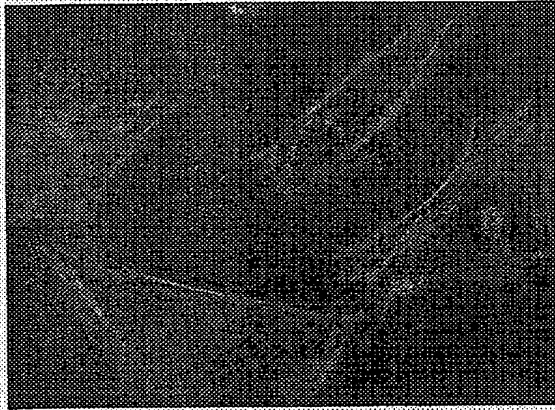


Fig. 16:

Cell Toxicity following administration of 2a and a light dose

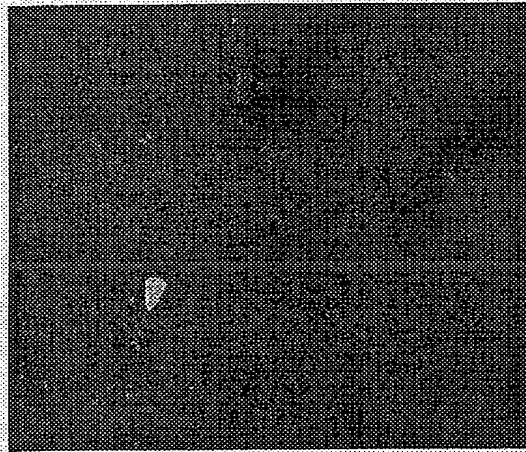
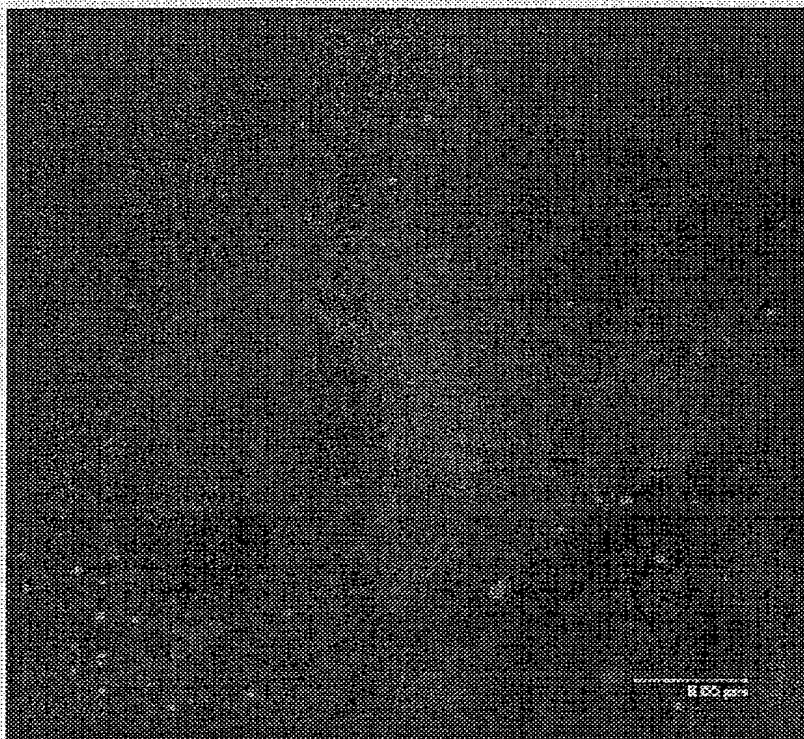


Fig. 17:

Confocal Microscope Image of Subcellular Localisation of Compound 2a (red) showing diffuse and punctuated subcellular localisation.



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Fig. 18:

Confocal Microscope Image of Subcellular Localisation of Compound 2a (red) in HeLa Cells with a Sytox green nuclear co-stain.

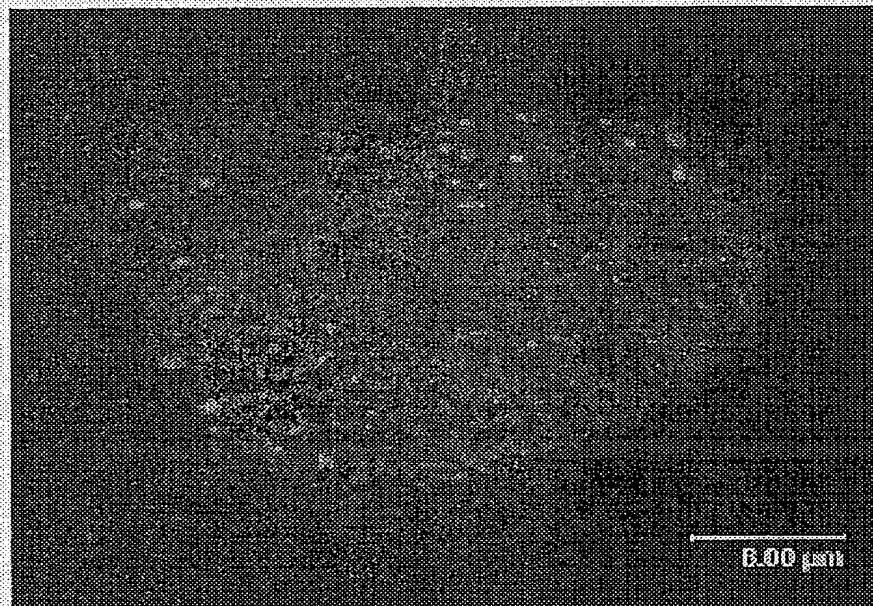
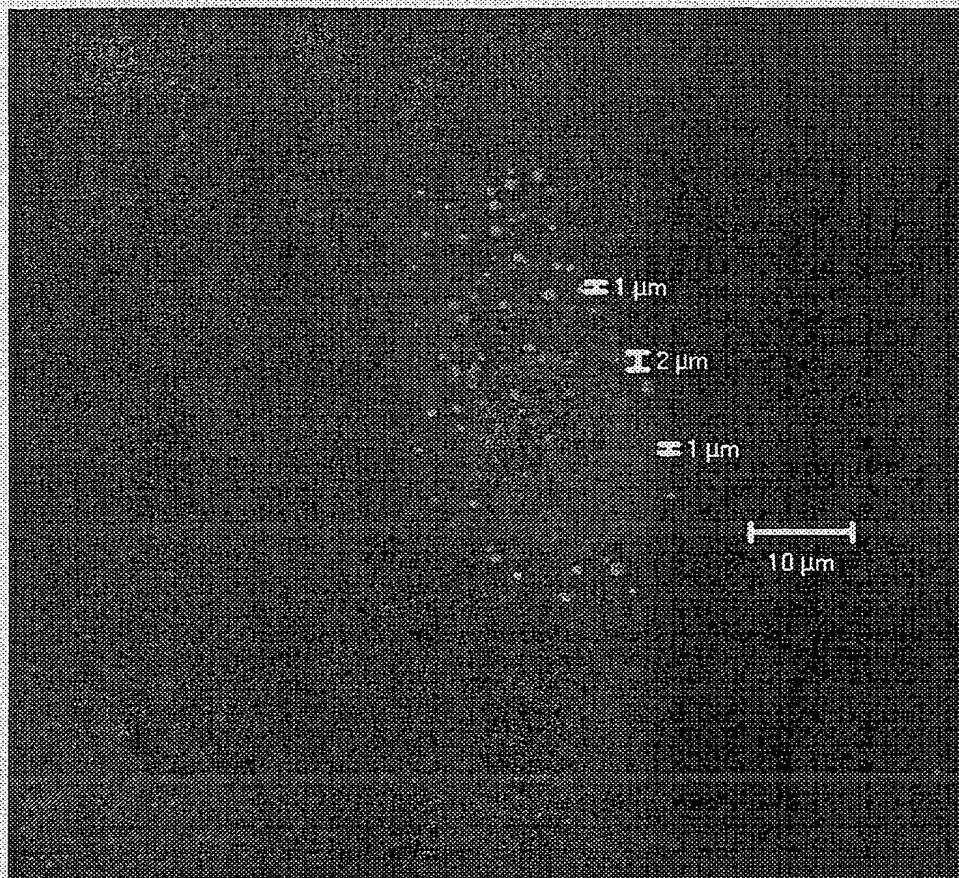


Fig. 19:
Identification of punctuated localisation.

Confocal Microscope Image of Subcellular Localisation of Compound **2a** (red) in HeLa Cells with a DAPI (blue) nuclear co-stain.



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